

## METHOD FOR FORMING WIRE LINE BY DAMASCENE PROCESS USING HARD MASK FORMED FROM CONTACTS

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### ABSTRACT OF THE DISCLOSURE

A method for forming a wire line by a damascene process includes forming a first insulating layer on a semiconductor substrate, etching the first insulating layer to form a contact hole, and forming a first conductive layer over the first insulating layer that fills the contact hole. The first conductive layer is patterned, and a storage node contact is formed that fills the contact hole and is electrically connected to the semiconductor substrate. A hard mask is formed over the storage node contact and the first insulating layer is etched using the hard mask as an etch mask to form a trench in the first insulating layer. A bit line is formed in the trench that is electrically connected to the semiconductor substrate. A second insulating layer is formed that covers the bit line. The second insulating layer and the hard mask are planarized and a storage node of a capacitor is formed on the storage node contact.

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